

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5- 2018-XXXX

FOR

U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE

AND

PELORIA MARINAS, LLC
Doing Business As
BRIDGE BAY MARINA

SHASTA COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring a wastewater treatment system. This MRP is issued pursuant to Water Code section 13267. The Dischargers shall not implement any changes to this MRP unless and until a revised MRP is issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) Executive Officer.

A glossary of terms used in this MRP is included on the last page.

I. GENERAL MONITORING REQUIREMENTS

A. FLOW MONITORING

Hydraulic flow rates shall be measured at the monitoring points specified in this MRP. Central Valley Water Board staff shall approve any proposed changes to flow monitoring locations prior to implementation of the change. All flow monitoring systems shall be appropriate for the conveyance system (i.e., open channel flow or pressure pipeline) and liquid type. Unless otherwise specified, each flow meter shall be equipped with a flow totalizer to allow reporting of cumulative volume as well as instantaneous flow rate. Flow meters shall be calibrated at the frequency recommended by the manufacturer; typically at least once per year and records of calibration shall be maintained for review upon request.

B. MONITORING AND SAMPLING LOCATIONS

Samples shall be obtained at the monitoring points specified in this MRP. Central Valley Water Board staff shall approve any proposed changes to sampling locations prior to implementation of the change.

The Dischargers shall monitor the following locations to demonstrate compliance with the requirements of this Order:

Monitoring Location Name	Monitoring Location Description
SW-1	Shasta Lake, along the north side of the marina dock near pump out Station #1
SW-2	Shasta Lake, along the north side of the marina dock near pump out Station #2
SW-3	Shasta Lake, along the north side of the marina dock near pump out Station #3
SW-4	Shasta Lake, along the south side of the marina dock near maintenance building

Shoreline	The entire shoreline between the boat launch ramp and Marina #5
Shasta Lake	Shasta lake within eyesight, along length of docks for Marina #1 through #5

C. SAMPLING AND SAMPLE ANALYSIS

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. Except as specified otherwise in this MRP, grab samples will be considered representative of water, wastewater, soil, solids/sludges and groundwater.

The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (Standard Provisions).

Field test instruments (such as those used to measure pH, electrical conductivity, dissolved oxygen, wind speed, and precipitation) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated at the frequency recommended by the manufacturer;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

Laboratory analytical procedures shall comply with the methods and holding times specified in the following (as applicable to the medium to be analyzed):

- *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA);
- *Test Methods for Evaluating Solid Waste* (EPA);
- *Methods for Chemical Analysis of Water and Wastes* (EPA);
- *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA);
- *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and
- *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125).

Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the California Department of Public Health's Environmental Laboratory Accreditation Program (ELAP). The Dischargers may propose alternative methods for approval. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

If monitoring consistently shows no significant variation in a constituent concentration or parameter after at least 24 months of monitoring, the Dischargers may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency. This monitoring program shall remain in effect unless and until a revised MRP is issued.

II. SPECIFIC MONITORING REQUIREMENTS

A. SEWAGE COLLECTION SYSTEM MONITORING

The Dischargers shall inject an approved dye tracer monthly into the sewage collection systems on Marina #3 to test for leaks and report whether dye was observed entering Shasta Lake. If dye is observed, corrective action measures shall be reported. This dye test will also be required anytime a sewage collection line is coupled, uncoupled or additional section(s) are added or removed.

B. MARINA MONITORING

The Dischargers shall use an approved dye tracer to test the sewage pump out system **monthly** for leaks and report whether dye was observed entering Shasta Lake during the test. In addition, the Dischargers shall record daily and report the quantity of domestic waste pumped into the septic tank/leachfield system. When the septic tank is serviced, the quantity of sewage removed and ultimate disposal site shall be reported.

The Dischargers shall inspect and dye test the holding tank beneath the floating rest rooms **quarterly** and report the condition of the tank each quarter. The Dischargers shall also visually inspect all docks and the surface waters of Shasta Lake for discharge of waste, wastewater, fuels and other discharges associated with rental and private houseboat operation.

C. INFLUENT MONITORING

Influent flow rates shall be monitored and influent samples collected upstream of the disposal system at a location before entering the leachfield. At a minimum, influent shall be monitored as specified below:

Discharge to Leachfield #3 (Marina #3)

Monitoring of all septic tank effluent shall include the following:

Parameter	Units	Sample Type	Sampling Frequency	Reporting Frequency
Flow Rate	gpd	Metered ^a	Continuous	Quarterly
gpd denotes gallons per day. ^a Flow rate may be metered or estimated based on potable water supply meter readings or other approved method.				

Offsite Disposal

Monitoring of septic tank effluent shall include the following:

Parameter	Units	Sample Type	Sampling Frequency	Reporting Frequency
Volume	gpd	Tank truck manifest	daily	Quarterly
gpd denotes gallons per day.				

D. SEPTIC TANK MONITORING

All septic tanks shall be inspected and/or pumped at least as frequently as described below. Inspections of sludge and scum depth are not required if the tanks are pumped at least annually.

Parameter	Units	Measurement Type	Inspection/Reporting Frequency
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Parameter	Units	Measurement Type	Inspection/Reporting Frequency
Sludge depth and scum thickness in each compartment of each tank	Feet	Staff Gauge	Annually
Distance between bottom of scum layer and bottom of outlet device	Inches	Staff Gauge	Annually
Distance between top of sludge layer and bottom of outlet device	Inches	Staff Gauge	Annually

Septic tanks shall be pumped when any one of the following conditions exists:

1. The combined thickness of sludge and scum exceeds one-third of the tank depth of the first compartment.
2. The scum layer is within 3 inches of the outlet device.
3. The sludge layer is within 8 inches of the outlet device.

If a septic tank is pumped during the year, the pumping report shall be submitted with the annual report. All pumping reports shall be submitted with the next regularly scheduled monitoring report. At a minimum, the record shall include the date, nature of service, service company name, and service company license number.

E. EFFLUENT MONITORING *

Samples of effluent shall be taken at a location that represents the effluent quality discharged to the disposal area. At a minimum, effluent monitoring shall consist of the following:

Constituent	Units	Sample Type	Sample Frequency	Reporting Frequency
pH	S.I.	Grab	Monthly	Quarterly
EC	umhos/cm	Grab	Monthly	Quarterly
BOD	mg/L	Grab	Monthly	Quarterly
TDS	mg/L	Grab	Monthly	Quarterly
FDS	mg/L	Grab	Monthly	Quarterly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Quarterly
Ammonia as N	mg/L	Grab	Monthly	Quarterly
Nitrate as N	mg/L	Grab	Monthly	Quarterly
Nitrite as N	mg/L	Grab	Monthly	Quarterly
Total Nitrogen	mg/L	Grab	Monthly	Quarterly
Zinc	mg/L	Grab	Monthly	Quarterly
Phenol	mg/L	Grab	Monthly	Quarterly
Formaldehyde	mg/L	Grab	Monthly	Quarterly

*Samples shall be collected from the Marina #3 holding tank as indicated on Attachment B of this order.

F. LEACHFIELD MONITORING

Monitoring shall be sufficient to determine if wastewater is evenly applied, the disposal area is not saturated, burrowing animals and/or deep-rooted plants and odors are all not present. Inspection of dosing pump controllers, automatic distribution valves, etc. is required to maintain optimum treatment in the disposal area. Leachfield monitoring at a minimum shall include the following:

<u>Constituent</u>	<u>Inspection Frequency</u>	<u>Reporting Frequency</u>
Pump Controllers, Automatic Valves, etc. ^a	Weekly	Quarterly
Nuisance Odor Condition	Weekly	Quarterly
Saturated Soil Conditions ^b	Weekly	Quarterly
Plant Growth ^c	Weekly	Quarterly
Vectors or Animal Burrowing ^d	Weekly	Quarterly
^a . All pump controllers and automatic distribution valves shall be inspected for proper operation as recommended by the manufacturer. ^b . Inspect a disposal area for saturated conditions. If a mound system is used, inspect perimeter base for signs of wastewater seepage or saturated soil conditions. ^c . Shallow-rooted plants are generally desirable, deep-rooted plants such as trees shall be removed as necessary. ^d . Evidence of animals burrowing shall be immediately investigated and burrowing animal populations controlled as necessary.		

G. LEACHFIELD SEEPAGE MONITORING

The shoreline of Shasta Lake, immediately below the leachfields, shall be inspected weekly to report the presence or absence of subsurface seepage. The location of any observed seepage shall be noted and reported. If seepage is observed, and grab sample shall be collected and analyzed for at least the following:

<u>CONSTITUENT</u>	<u>UNITS</u>	<u>SAMPLE TYPE</u>	<u>SAMPLING FREQUENCY</u>
Ammonia-N	mg/L	Grab	Weekly, during discharge
Nitrate-N	mg/L	Grab	Weekly, during discharge
Formaldehyde	µg/L	Grab	Weekly, during discharge
Total and Fecal Coliform	MPN ¹ /100 mL	Grab	Weekly, during discharge

¹MPN = Most Probable Number

H. SURFACE WATER MONITORING

Surface water samples shall be grab samples collected from Shasta Lake. Surface water samples shall be collected whether the marina is at its permanent location or is relocated during low water conditions. Surface water samples shall be collected around the marina docks, in the general areas described below and indicated on Attachment B. Samples must be collected, even if dock configuration changes, for the following:

<u>Sample</u>	<u>Description</u>
SW-1	Shasta Lake, along the north side of the marina dock near pump out Station #1
SW-2	Shasta Lake, along the north side of the marina dock near pump out Station #2
SW-3	Shasta Lake, along the north side of the marina dock near pump out Station #3
SW-4	Shasta Lake, along the south side of the marina dock near maintenance building

<u>Constituent</u>	<u>Analytical Method</u>	<u>Station</u>	<u>Sampling Frequency</u>
Fecal Coliform	Std. Method 9221 E, 5-5-5	SW-1, SW-2, SW-3, SW-4	Monthly ¹ during June, July, August, September

¹If any sample exceeds 400/100 ml during any 30-day period, the Dischargers shall immediately re-analyze all receiving water stations and dye test the pump out system to determine the contamination source. Sampling shall continue until fecal coliform concentrations are below 400/100 ml.

III. REPORTING REQUIREMENTS

All monitoring reports should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to:

centralvalleyredding@waterboards.ca.gov.

To ensure that your submittal is routed to the appropriate staff person, the following information should be included in the subject line of the email:

Bridge Bay Marina/Shasta/WDR

Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to the following address:

Central Valley Regional Water Quality Control Board
364 Knollcrest Drive, Suite 205
Redding, CA 96002

A transmittal letter shall accompany each monitoring report. The letter shall include a discussion of all violations of the WDRs and this MRP during the reporting period and actions taken or planned for correcting each violation. If the Dischargers has previously submitted a report describing corrective actions taken and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. Pursuant to Section B.3 of the Standard Provisions and General Reporting Requirements, the transmittal letter shall contain a statement by the Dischargers or the Discharger's authorized agent certifying under penalty of perjury that the report is true, accurate and complete to the best of the signer's knowledge.

In reporting monitoring data, the Dischargers shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

Laboratory analysis reports do not need to be included in the monitoring reports; however, all laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3 (SPRRs). For dischargers conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

In addition to the requirements of Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the Reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

All monitoring reports that involve planning, investigation, evaluation or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1.

In the future, the State Water Board or Central Valley Regional Water Board may require electronic submittal of monitoring reports using the State Water Board's California Integrated Water Quality

System (CIWQS) Program Web site at: (<http://www.waterboards.ca.gov/ciwqs/index.html>) or similar system. Electronic submittal to CIWQS, when implemented, will meet the requirements of our Paperless Office System.

A. Monthly Monitoring Reports

Monthly monitoring reports shall be submitted to the Board by the **1st day of the second month** following the end of the reporting period (i.e. the January monthly report is due by **March 1st**). At a minimum, each monitoring report shall include the following:

1. Results of Marina Monitoring.
2. Results of Leachfield Monitoring.
3. Results of Surface Water Monitoring
4. Copies of laboratory analytical report(s).
5. A comparison of monitoring data to the flow limitations and discharge specifications and an explanation of any violation of those requirements.
6. A copy of inspection log page(s) documenting inspections completed during the month.
7. A calibration log verifying calibration of all monitoring instruments and devices used to fulfill the prescribed monitoring program.

B. Quarterly Monitoring Reports

Quarterly monitoring reports shall be submitted to the Board by the **1st day of the second month after the quarter** (i.e. the January-March quarterly report is due by **May 1st**). Each Quarterly Monitoring Report shall include the following:

1. Results of monthly flow monitoring.
2. Copies of laboratory analytical report(s).
3. A comparison of monitoring data to the flow limitations and discharge specifications and an explanation of any violation of those requirements.
4. A copy of inspection log page(s) documenting inspections completed during the quarter.
5. A copy of calibration log page(s) verifying calibration of all hand-held monitoring instruments performed during the quarter.

C. Annual Monitoring Reports

The Fourth Quarterly Monitoring Report will serve as an **Annual Monitoring Report**. The Fourth Quarterly Monitoring Report for each calendar year shall include the following in addition to the items listed above.

1. Effective 2018, and every five years thereafter, an evaluation of sludge depth and sludge removal plans pursuant to Discharge Specification D.9.
2. A summary of information on the disposal of sludge and/or solid waste during the calendar year.

3. An evaluation of the performance of the system, including discussion of capacity issues, infiltration and inflow rates, nuisance conditions, and a forecast of the flows anticipated in the next year, as described in Standard Provision E.4.
4. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
5. Monitoring equipment maintenance and calibration records, as described in Standard Provision C.4.
6. A statement of when the wastewater treatment system Operation and Maintenance Manual was last reviewed for adequacy and a description of any changes made during the year.
7. A discussion of any data gaps and potential deficiencies or redundancies in the monitoring system or reporting program.

The Dischargers shall implement the above monitoring program as of the date of this Order.

Ordered by:

PATRICK PULUPA,
Executive Officer

(Date)

GLOSSARY

BOD ₅	Five-day biochemical oxygen demand
CaCO ₃	Calcium carbonate
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
NTU	Nephelometric turbidity unit
TKN	Total Kjeldahl nitrogen
TDS	Total dissolved solids
TSS	Total suspended solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-hr Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots over a 24-hour period.
Daily	Every day
Twice Weekly	Twice per week on non-consecutive days.
Weekly	Once per week.
Twice Monthly	Twice per month during non-consecutive weeks.
Monthly	Once per calendar month.
Bimonthly	Once every two calendar months (i.e., six times per year) during non-consecutive months.
Quarterly	Once per calendar quarter.
Semiannually	Once every six calendar months (i.e., two times per year) during non-consecutive quarters.
Annually	Once per year.
mg/L	Milligrams per liter
mL/L	Milliliters [of solids] per liter
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
gpd	Gallons per day
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters
MTF	Multiple tube fermentation